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AUTHOR Jones, Joan; Jackson, Ronald
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ABSTRACT

In response to California Assembly Bill 3 requiring community colleges to evaluate the success rate of remedial students, Oxnard College (OC) conducted a study of the academic performance and persistence of entering students who were advised to take a remedial reading course, comparing students who subsequently enrolled in the recommended course with those who did not. The study sample included 192 first-time students who attended OC in fall 1989 and whose entry-test reading scores were below college-level. Eighteen students elected to enroll in the recommended course of whom 14 completed the course. Study findings included the following: (1) age distributions for the two groups were similar; (2) 70% of advice followers who completed the recommended course also completed all other units attempted in fall 1989, versus 61% of non-advice followers, but this difference was not found to be statistically significant even at a 5% level of confidence; (3) anomalous to the course completion data, 40% of the non-advice followers persisted on to the subsequent semester versus 21% of course completers; (4) all four students who enrolled in but did not complete the recommended course were male, while 54% of the course completers were female; and (5) the majority (52%) of non-advice followers were male. The study recommended that first time OC students receive counseling before enrolling and that a plan be developed to facilitate the success and persistence of remedial students at the college. (PAA)

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THE SUCCESS AND PERSISTENCE OF ADVICE FOLLOWING AND NON-ADVICE FOLLOWING REMEDIAL READING STUDENTS AT OXNARD COLLEGE

BY

Joan Jones, Ed.D.

and

Ronald Jackson, M.Ed., M.A.

May 21, 1991

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Oxnard College Research Report #91-01

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ABSTRACT

The efficacy of remedial programs in higher education has been debated for several decades. Nevertheless, research on the ability of remediated students to compete with traditional students in the college classroom is still somewhat inconclusive.

In 1987, the California Legislature passed Assembly Bill AB 3, commonly known as the California Matriculation Bill. One of the requirements of this bill is the evaluation of the success rate of students enrolling into recommended remedial courses. This study is in response to the evaluation criteria of AB 3, focusing on community college students taking remedial reading courses. Its purpose is to compare both the performance and persistence of students who were advised to enroll into and subsequently completed a remedial reading course at Oxnard College with students who were advised but did not enroll into the recommended remedial reading course.

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PURPOSE:

In 1987, the California Legislature passed Assembly Bill AB 3, commonly known as the State of California Matriculation Bill. One of the requirements of this bill is the evaluation of the success rate of students who enroll into recommended remedial courses as compared to students who choose not to enroll into recommended remedial courses. In response to this bill, a variety of studies have been designed by the Community College Research Group in California. This study is in response to one of the designs established by this research group. Its purpose is to compare both the performance and persistence of students' who were advised to enroll into and subsequently completed a remedial reading course at Oxnard College with students who were advised but did not enroll into the recommended remedial reading course.

BACKGROUND AND SIGNIFICANCE

In 1987, the California Community College's initiated a project involving a consortium of eight of the 107 state community colleges to develop valid and culturally fair assessment procedures for placing students into appropriate level courses (Cohen and Friedlander, 1989:15). Specifically, the project was designed to provide a guide to the state's community colleges that would lead to the development of placement procedures within each college that were consistent with the statewide matriculation plan.

At the completion of the study, the following eight variables were suggested as the "best" predictors of students' grades:

1. English entry-level assessment score
2. Reading entry-level assessment score
3. Math entry-level assessment score
4. High school grade-point average
5. Age
6. Units planned
7. Number of hours employed
8. High school graduation status (receipt of a diploma)

In reviewing this list, however, it is important to realize that no one set of predictor variables can account for all the variability in student grades. Indeed, Wood (1988) stated that there were some problems associated with these predictor variables and suggested possible alternate approaches. His suggestions focused on improving course tests and using more alternate teaching techniques which permit the poorer reader to learn more and demonstrate learning more clearly.

RELATED LITERATURE

The efficacy of remedial programs in higher education has been debated for several decades. Nevertheless, research on the ability of remediated students to compete with traditional students in the college classroom is still somewhat inconclusive,. Perhaps, the most comprehensive study to date was conducted by Kulik, Kulik and Shwalb (1983). They reviewed sixty studies on higher education remedial programs that had taken place prior to 1983. They concluded that high-risk students who enrolled in remedial programs generally stayed in school longer and had better grades than similar students who did not enroll in remedial programs exclusive of community college high-risk students. The effectiveness of remedial programs for the high-risk community college student, however, was delineated as marginal at best by the study and the researchers concluded that:

1. The community college developmental and remedial programs effectiveness in raising grade-point averages was "indistinguishable" from the effectiveness of the regular program.

2. Developmental and remedial programs in the community colleges had little effect on the persistence rates of students.

In contrast to Kulik, Kulik and Shwalb, Johnson (1989) specifically studied remedial reading programs. He concluded that remedial reading programs can be successful in assisting high-risk students in their academic endeavors provided the reading programs are well structured, linked with academic courses, taken concurrently, stress a supportive relationship with the instructor, include behavioral counseling, are interwoven with other services and function proactively instead of reactively.

Spicer (1986), at Glendale Community College, tried to identify factors which correlated with success in a college-level English course. He concluded that thirteen factors deserved attention including previous English and Math experience, primary language skills and entry-level reading scores.

Finally, Richey and Lewis' (1986) findings on an analysis of retention rates revealed that reading comprehension ability is the best predictor of academic performance and retention. He focused particularly on high-risk and/or disadvantaged students and the methods they used to compensate for their marginal educational preparedness.

RESEARCH QUESTION

Specifically, this study investigated both the persistence and academic performance of students whose entry-level test scores at Oxnard College indicated reading deficiencies. The study was ex-post-facto in nature and was designed to answer the following question:

> Do students who enter Oxnard College with reading deficiencies achieve higher grades and persist in college longer if they take recommended remedial reading courses than students who enter the college with reading deficiencies but do not take recommended remedial reading courses?

HYPOTHESES

Though prior research has indicated some success for students who completed remedial reading programs, for purposes of the study, the following two Null Hypotheses were proposed:

1. There will be no significant difference in the proportion of students who persist to subsequent term enrollment between students who were advised to and successfully completed remedial reading and students who were advised to and did not enroll in remedial reading.

2. There will be no significant difference in the proportion of units completed successfully during the Fall 1989 term between students who were advised to and enrolled in remedial reading and students who were advised to and did not enroll in remedial reading classes.

METHODOLOGY

The sample for this study was randomly drawn from the population of Fall 1989 first-time-in-college Oxnard College students whose entry-level test scores indicated reading levels that were below college-level. This sample population of 192 students was then divided into two groups: the experimental group, which consisted of those students in the sample who actually enrolled in the appropriate remedial reading course; and, the control group, which consisted of those students in the sample who did not enroll in the appropriate remedial reading course.

For each student in each group the number of units attempted in term one and the number of units successfully completed in term one were recorded. Additionally, for each student in each group enrollment or non-enrollment during the subsequent term was also recorded. Within each group, the collective percentage of courses successfully completed was calculated as was the percentage of students persisting to a subsequent term enrollment.

The Chi Square Statistic was calculated to test for significant differences between the groups in the proportion of courses successfully completed. The Chi Square Statistic was also calculated to test for significant differences between the groups in terms of the proportion of the students' persisting to a subsequent term.

DEFINITION OF TERMS

The Community College Research Group has specified that a student successfully completes a course if the student's transcript delineates a grade of "A", "B", "C" or "CR" for each course attempted. Likewise, the research group has specified that nonsuccessful completion of a course is delineated by a grade of "D", "F", "NC", "W" or "I" on the transcript.

Persistence has been defined as enrollment in the subsequent term as indicated by the student's transcript. Retention, on the other hand, has been defined as a grade of "A", "B", "C", "D", "CR" or "I" on the student's transcript at the end of a term. It should be noted, however, that these definitions of persistence and retention do not conform to current higher education nomenclature (see note under limitations section).

Finally, remedial reading has been defined as non-AA applicable reading courses which are designed to prepare students for college-level reading.

LIMITATIONS

At the onset of this study, it was assumed that students who scored below college-level on the reading assessment were all advised to take one or more remedial reading courses by a counselor. After the data was compiled, it became obvious that the vast majority of students who scored below college-level on the reading assessment were not being advised to take a remedial reading course. A spot check of ten students in the sample population verified that appropriate counseling was not taking place usually because students opted for mail-in registration which avoided the counseling process. As a result, the sample of students who actually enrolled in remedial reading courses was limited in size and suspect.

The validity and reliability of the entry-level reading assessment test is subject to continuing review. This is particularly disconcerting when one considers the fact that students may consider the entry-level testing process a necessary but inconsequential event in an otherwise "open door" institution where test scores have no bearing on admissions.

Students included in the sample population were taught by a variety of different instructors. As a result, the idiosyncratic nature of instructor effectiveness and grading policies was a concern since grades were used to define both success and persistence.

It should be noted that persistence is not commonly used by higher education researchers to describe the phenomenon "staying in school." Indeed, most researchers opt for the terms retention and/or attrition to describe this phenomenon. Secondly, the narrow view of persistence put forth by the research group does not take into account the "stop-in", "stop-out" proclivity of today's community college student.

RESULTS

Table 1 summarizes the parameters of the randomly selected sample population. It was disappointing that only eighteen students out of the 192 students in the sample population actually enrolled in the remedial reading programs. Age data for each group, however, seems to indicate that the groups had relatively similar age distributions.

TABLE 1
Parameters of the Sample Population of Students Whose Reading Scores Indicated a Need for Reading Remediation

	N	Mean	Age Median	Mode
Remedial Students (Advice Followers)				
Reading Course Completers	14	31.3	26	20
Reading Course Noncompleters	4	27	25	26
Non-Advice Followers	174	32.7	28	23

The data in Table II suggests that the course completers (advice followers) had a higher success rate in terms of the number of units completed successfully during the fall term than the non-advice followers (70% versus 61%). The Chi Square Statistic for this difference in proportions, however, was not significant at even the 5% level of confidence. Anomalous to the course completion data, the non-advice followers tended to persist in school longer than the advice followers/course completers (40% versus 21%). The Chi Square Statistic for this difference in proportions was significant at the 5% level.

TABLE II
Success and Persistence of Remedial Reading Advice Followers and Non-advice Followers

	# of Units Attempted	# of Units Successfully Completed	% of Students Persisting to Next Term
Remedial Reading Advice Followers:			
Course Completers	94	66 (70%)	3 (21%)
Course Non-completers	23	0 (0%)	0 (0%)
Non-Advice Followers	1226.5	750.5 (61%)	70 (40%)
		$x^2 = 3.00$	$x^2 = 3.84$
		$p = .079$	$p = .047$

Table III delineates the gender and ethnicity of the students in the sample population. All of the advice following course non-completers were male and the majority of the remedial reading course completers (54%) were female. In contrast, the non-advice followers were predominately male (52%). The ethnicity of the advice followers were: 46% Hispanic, 23% Asian, 15% Filipino, 8% Black, and 8% White. The non-advice followers were: 41% White, 34% Hispanic, 10% Black, 7% Filipino, and 5% Asian.

TABLE III
Gender and Ethnicity of Advice Following and Non-advice Following Remedial Reading Students

	Male	Female	White	Hisp.	Black	Asian	Fil.
Remedial Reading Advice Followers							
Course Completers	46%	54%	8%	46%	8%	23%	23%
Course Noncompleters	100%	0%	0%	50%	25%	0%	25%
Non-Advice Followers	52%	48%	41%	34%	10%	5%	7%

DISCUSSION

The small number of students who were actually classified as advice followers (enrolled in remedial reading) was surprising since Oxnard College, in response to AB 3, developed specific counseling plans to ensure students were advised to enroll in appropriate level courses. The avoidance of the counseling process via mail-in registration (see discussion under Limitations) was not anticipated and the researchers must assume that many of the students classified as advice followers actually self-selected enrollment into the remedial reading program.

The small sample of students classified as advice followers and the fact that many of these students may have self-selected enrollment into the remedial reading program confounds the analysis of the data. As a result, the following conclusions are only cautiously offered and it is strongly recommended that a follow-up study be initiated once the avoidance of the counseling process can be corrected.

The results of the analysis indicate that Null Hypothesis One should be rejected in favor of an alternative hypothesis which suggests that remedial reading for students who test below college-level on the reading assessment is negatively associated with persistence. Indeed, the results seem to support Kulik, Kulik and Shwalb's findings that remediation at the community college level has little or no impact on persistence.

In contrast, the remedial reading group in this study did complete a higher percentage of courses attempted than the non-remedial reading group. However, this observed difference in the proportion of units successfully completed was not statistically significant. As a result, Null Hypothesis Two

suggests no difference in the proportion of units successfully completed between the remediated and non-remediated groups should be accepted.

The fact that the non-remediated students persisted longer in school than the remediated group was perplexing. One plausible explanation may be derived from Johnson's study (see page 2) which hypothesized that in order to be effective, remedial reading programs need to be linked with academic courses that are taken concurrently. At Oxnard College, this linking of the remedial reading program with the mainstreamed curriculum has apparently not occurred. In addition, Johnson speculated that behavioral counseling should be an integral part of the remedial reading program. At Oxnard College counseling primarily occurs prior to entry into the remedial reading program but not during the instruction process.

A second plausible explanation may relate to self-concept theory. The student who needs remediation and is mainstreamed, though lacking in basic skills, is in an atmosphere that puts him or her on a par with peers. On the other hand, the student who is enrolled in a remedial class is set apart from his or her peers and, as a result, may have some negative self-esteem experiences which can be avoided by dropping out of school (see Knowles: 1978 for a fuller discussion of this issue).

It would seem logical that a positive correlation exists between persistence and the number of attempted units completed successfully. As such, it was not surprising that the proportion of attempted units successfully completed by advice followers was not significantly larger than the proportion of attempted units successfully completed by non-advice followers. What was surprising was the fact that the advice followers had a higher proportion of completion since the non-advice followers persisted longer. Perhaps, however, the remedial curriculum offered opportunities for success for the advice followers which were not present for the non-advice followers in the mainstreamed curriculum.

RECOMMENDATIONS

While the results of this study are suspect because of the small portion of the sample population that was actually classified as advice followers, the study was useful in identifying the fact that even though entry-level testing is taking place, the majority of students are avoiding post entry-level test counseling. As such, it is strongly recommended that Oxnard College develop a mechanism to ensure that first-time-in-college students are counseled prior to initial enrollment and registration. At many colleges, first-time-in-college students are required to sign an advisement form that is completed by a counselor based on entry-level test scores (see appendix).

Secondly, it is strongly recommended that this study be replicated one year from now after the new counseling procedures have been implemented. Because of the small sample of students who were classified as advice followers in this study, the data analysis and statistical tests may have yielded dubious results. A follow-up study with a larger sample of advice followers will either verify or nullify the tentative conclusions hypothesized in this study. Additionally, the recent funding of a Title III Grant at Oxnard College should aid in the development of a successful remedial program.

Based on the analysis in this study, it is also recommended that the Oxnard College Counseling Department, to include the remedial faculty, participate in an inservice training program which emphasizes the components essential to successful counseling and remedial programs. The training should also include a discussion of the conclusions and recommendations delineated in this study and suggestions and input should be sought that will lead to the development of a plan that facilitates academic success and persistence of remedial students at Oxnard College.

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Appendix

NAME [redacted] DATE 7-11-90

SSN [redacted] CAMPUS East TERM I

TEST	SCALE SCORE	ADVISING SCORE	COURSES REQUIRED / ADVISED
ENGLISH	26	15 /50	___ FRESHMAN COLLEGE ENGLISH ___ FUNDAMENTALS OF WRITING, ENC 0010 ✓ BASIC GRAMMAR, ENC 0080
READING	07	20 /45	___ NONE, FRESHMAN COLLEGE LEVEL ___ FUNDAMENTALS OF READING, REA 0002 ✓ BASIC READING, REA 0001
ARITHMETIC	109	17 /35	✓ BASIC ARITHMETIC, MAT 0002 ___ FUNDAMENTALS OF MATH, MAT 0003
		(for A.S.)	___ BUSINESS MATHEMATICS, QMB 1001
ELEM. ALGEBRA	201	02 /35	___ ELEMENTARY ALGEBRA, MAT 0024 ___ INTERMEDIATE ALGEBRA, MAT 1033
INTER. ALGEBRA	___	___ /35	___ INTERMEDIATE ALGEBRA, MAT 1033 ___ COLLEGE ALGEBRA, MAC 1104 ___ FINITE MATHEMATICS, MGF 1202

COLLEGE SURVIVAL SKILLS (SLS 1501) ADVISED ✓ BASED ON OVERALL ASSESSMENT (IF CHECKED)

ASSESSMENT REPORT BY [redacted]
COUNSELOR / LEARNING LAB SPECIALIST SIGNATURE

STUDENT STATEMENT: I have received my scores and have been advised accordingly. Any courses I have selected against advice are listed:

STUDENT SIGNATURE [redacted] DATE [redacted]

COUNSELOR SIGNATURE [redacted] DATE [redacted]

WHITE - Records YELLOW - Campus File PINK - Student GOLD - Learning Lab
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